Standard Operating Procedure

for

Hydrocarbon Canister Sampling during Intensive Operating Periods in CRPAQS

Prepared By:
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Acceptance and Installation Instructions

1. Open the box..note how it is stuffed with foam to be sure it arrived safely

2. Place on a table or bench and plug in the two little transformers and the single power cord. Get a circuit with 115 VAC...measure if possible

3. Remove the brass... Swagelok... nuts from the inlet to the pump... and from the 4 out puts on the solenoids....(save them for return shipment)

4. The light on the Chrontrol should be on and you can turn on the on/off switch on the front of the power supply and the pump will come on

5. Shut the pump off... its easier to concentrate on entering the program into the Chrontrol... with less noise.

6. Follow the instructions on the attached page..... they are very basic... First unlock the unit... by pressing 103 and enter the current time as directed... Then enter the program...

7. Check the program...as listed in the attached instructions... All should...light up and audibly 'click' as the solenoids go on and off....

8. Connect the 4 Teflon lines to the solenoids and the 5.8L canisters..IMPORTANT... use 2 wrenches a 1/2 -inch wrench to hold steady the fitting on the solenoid and a 9/16-inch wrench on the Swagelok nuts...Reason is the threaded fittings into the solenoid are easily damaged if over tightened and will leak... voiding sample.

We have found it best to leave the cans in the shipping box and to label each Teflon line 1--2--3--4-- for their respective solenoid.....i.e solenoid #1 = circuit #1 on the Chrontrol...etc. as a memory aid when attaching lines to cans and recording the sampling data.

9 I will send out the 25-ft line of annealed Teflon to you today...it is very 'super' clean..and inert. We are not sending a Stainless Steel line... it is to stiff to install..

10. Very important... we 're here to talk with you about any questions...Call me at 503-621-1435 mornings and Bob at the lab 503-690-1087.

IOP Sampling Procedure

To start the VOC sampling for the CRPAQS IOP'S you will have visit the site on the day before the IOP...
In your visit you will have to do the following:

Arrive at the station after 10 AM....

1. Start the pump.

2. Open the valves on the canisters ...solenoid-circuit # 1 and #2.... these correspond to time 00-05AM and 05 to 10 AM

3. Do not open the valves on the canisters at positions # 3 and # 4...until the next day...as these correspond to times 10 to 16 (4PM) and 16 to 00 (mid-night).

4. On day one of the IOP you will have to arrive at the site before 10 AM to open the valves on canisters at positions #3 and #4 and the close the valve on canisters # 1 and # 2 (after 10 AM) and change out the used-exposed canisters for new canisters.

At this time you can open the valve to these new canisters so your visit on day 2 of the IOP can be more flexible for changing out #3 , #4, and #1, etc.

PROGRAM FOR 4 EVENT CRPAQS IOP 10/20/2000

ENTER PACIFIC **STANDARD** TIME

Press Display

Unlock Keyboard

1.	103	000

Set **PST** Time (i.e. 9:00 am)

1.	TIME	Blank
2.	900 am	900
3.	ENTER	900

PACIFIC STANDARD TIME = 9:00 am

Press Display

Enter Program

1.	1	01
2.	CIRCUIT	00
3.	1	01
4.	ON	000
5.	1200 am	1200
6.	OFF	000
7.	500 am	500
8.	ENTER	Current Time
9.	2	02
10.	CIRCUIT	00
11.	2	02
12.	ON	000
13.	500 am	500
14.	OFF	000
15.	1000 am	1000
16.	ENTER	Current Time
17.	3	03
18.	CIRCUIT	00
19.	3	03
20.	ON	000
21.	1000 am	1000
22.	OFF	000
23.	400 pm	400.
24.	ENTER	Current Time
25.	4	04
26.	CIRCUIT	00
27.	4	04
28.	ON	000
29.	400 pm	400.
30.	OFF	000
31.	1200 am	1200
32.	ENTER	Current Time

LOCK KEYBOARD

1.	LOCK	Current Time

CHECK PROCEDURE FOR CRPAQS IOP 4 EVENT SAMPLES 10/20/2000

To: UNLOCK KEYBOARD

Press	Display	
1.	103	Current Time
2.	TIME	Blank
3.	TIME	Current Time

To: CHECK PROGRAM

Press	Display	
1.	1	01
2.	CIRCUIT	01
3.	ON	1200
4.	OFF	500
5.	ENTER	Current Time
6.	2	02
7.	CIRCUIT	02
8.	ON	500
9.	OFF	1000
10.	ENTER	Current Time
11.	3	03
12.	CIRCUIT	03
13.	ON	1000
14.	OFF	400.
15.	ENTER	Current Time
16.	4	04
17.	CIRCUIT	04
18.	ON	400.
19.	OFF	1200
20.	ENTER	Current Time

TO: LOCK KEYBOARD

1.	LOCK	Current Time

Dr. Rei Rasmussen: rei@ese.ogi.edu, (503) 621-1435
Bob Dalluge: dalluge@ese.ogi.edu, (503) 690-1087

TO CHECK FLOW 11/21/2000

UNLOCK KEYBOARD

Press	Display	
1.	103	Current Time
2.	TIME	Blank
3.	TIME	Current Time

MAKE SURE ALL VALVES ARE CLOSED

Press	Display	
1.	1 01	
2.	ON	Current Time
3.	1 01	
4.	OFF	Current Time
5.	2 02	
6.	ON	Current Time
7.	2 02	
8.	OFF	Current Time
9.	3 03	
10.	ON	Current Time
11.	3 03	
12.	OFF	Current Time
13.	4 04	
14.	ON	Current Time
15.	4 04	
16.	OFF	Current Time

CONNECT FLOWMETER TO TEFLON TUBE ON VALVE "1"

CHECK FLOW

1. Turn Pump ON by turning on Power Supply

Press	Display	
1.	1 01	
2.	ON	Current Time

Flow Should Read about 30. If it is signifigantly different:

Please call Bob Dalluge or Rei Rasmussen, for hepful Hints.

Adjust the flow by removing the cap , the long silver nut on the right side of the flow controller, "1/2 wrench".

Adjust the allen screw using a "5/64 allen wrench". Clockwise decreases the flow, counterclockwise increases the flow.

Replace the cap on the flow controller.

3.	1 01	
4.	OFF	Current Time

TO: LOCK KEYBOARD

1.	LOCK	Current Time

CRPAQS VOC SAMPLES / IOP EVENTS
HYDROCARBON MEASUREMENTS

RETURN CANISTERS TO:

BRC / R.A. RASMUSSEN,
17010 NW SKYLINE BLVD
PORTLAND, OR 97231 PH 503 621 1435

LOCATION:_____

Sampler # _____

Start Pump ---Open Valves ---Record Data:

DATE/TIME	S1/CAN #	S2/CAN #	S3/CAN#	S4/CAN#
1ST Day_____	_____	_____	_____	_____
2ND Day_____	_____	_____	_____	_____
3RD Day_____	_____	_____	_____	_____
4TH Day_____	_____	_____	_____	_____

Signature _____

At end of IOP: Shut Off Pump, Install New Cans-DO NOT OPEN THEIR VALVES, they are for the next IOP.

The Tags on Each Canister Need To Be Filled Out With: Location, Date/Time, and S# / Can #.

Recording the S# / Can # is Especially IMPORTANT as it Identifies the Sample Time-Interval per IOP Day. It MUST be Done on Both the Work Sheet and the Tags on the Individual Canisters